

Lab Supplies Needed For Module # 1

- Vegetable oil
- Water
- Maple or corn syrup
- A grape
- A piece of cork
- An ice cube
- A small rock
- A tall glass
- Two glass canning jars or peanut butter jars, both the same size
- Food coloring, any color
- A pan and stove to boil water, and a hotpad to hold the pan
- A plastic, 2-liter bottle
- A balloon (6-9 inch round balloons work best.)
- Clear vinegar
- Baking soda
- A funnel or butter knife
- A few leaves of red (sometimes called purple) cabbage
- A saucepan
- A stove
- Measuring cups

Lab Supplies Needed For Module # 2

- A reasonably heavy book
- A sheet of cardboard about the same size as the book (The cardboard that comes on the back of a pad of paper works well. You can also cut a piece out of an old cardboard box.)
- A sheet of heavy paper (like construction paper or cardstock) about the same size as the book
- A sheet of regular paper about the size of the book
- A reasonably heavy book
- A sheet of cardboard about the same size as the book (The cardboard that comes on the back of a pad of paper works well. You can also cut a piece out of an old cardboard box.)
- A sheet of heavy paper (like construction paper or cardstock) about the same size as the book
- A sheet of regular paper about the size of the book
- A metal paper clip
- A small rock (It needs to weigh less than the cardboard, so it should be really small.)
- A working flashlight
- A parent or helper

Lab Supplies Needed For Module # 3

- A tall glass
- Measuring cups for measuring out one and a half cups of water
- An egg
- A teaspoon

- A spoon for stirring
- Water
- Salt
- Four sheet of reasonably thick cardboard (A cut-up cardboard box works nicely.)
- Scissors
- A sheet of facial tissue
- A chunk of soap from a bar of soap
- A stick of chewing gum
- A bathtub or large sink (A bathtub is best.)
- A reasonably large bowl
- Water
- Black pepper
- Tweezers
- A needle
- Thread
- Tape
- Someone to help you

Lab Supplies Needed For Module # 4

- A wooden pencil
- A wooden ruler
- At least 5 quarters, preferably more
- Two brooms or a broom and a mop (You basically need two implements with long handles. The experiment works best when the handles are very smooth.)
- Several feet of rope (Nylon rope works best because it is slick.)
- Two reasonably strong people to help you

Lab Supplies Needed For Module # 5

NONE

Lab Supplies Needed For Module # 6

- Alum (A powder available at any drug store - you need at least 4 ounces)
- Two small glasses (like juice glasses)

- A spoon for stirring
- Some thread
- Two weights (washers, nuts, fishing sinkers, etc.)
- A large plate
- A few rocks from outside (small rocks actually work best)
- A sheet of dark paper (blue, black, etc.)
- A magnifying glass
- Sugar (optional)
- Food coloring (optional)
- A large glass jar with a lid
- Some dirt from your yard
- Some sand
- Some gravel comprised of various sizes of rocks
- Water
- Plaster of Paris
- A medium or large margarine tub
- A few lima beans
- Water
- Paper towels
- Vinegar
- A large glass
- A limestone rock (Most gravel is limestone. You can also go to a home improvement store's garden section and specifically ask for limestone. The rock needs to be small enough to fit in the glass)
- Some steel wool
- A small bowl
- A shoebox
- A gardener's spade (or something else you can use to dig with)
- Scissors
- A spot in the yard in which you can dig
- A water hose and water
- A large rock

Lab Supplies Needed For Module # 7

- A plastic margarine tub
- Water
- A rock that will fit in the tub with a lot of room to spare
- A freezer
- Modeling clay
- Plaster of Paris
- A paper plate
- A shell or something else with a distinctive shape or design
- Vaseline® or another petroleum jelly

Lab Supplies Needed For Module # 8

- 18 index cards (The size is irrelevant, as is the presence or absence of lines.)
- A parent or someone else to write on the cards and hold the key

Lab Supplies Needed For Module #9

- Long pipe cleaners (the longer the better)
- Four different colors of beads (The beads need to have holes in them large enough for the pipe cleaners to fit through. You can get beads like that at any craft store.)
- Scissors strong enough to cut the pipe cleaners
- One slice of potato (uncooked)
- A pale green leaf (The paler the green, the better this experiment will work.)
- Rubbing alcohol (available at any drug store)
- Iodine (available at any drug store)
- One jar with a lid
- Two shallow dishes
- Tweezers
- A large jar with a lid
- A small potted plant that can fit inside the jar with room to spare
- Some water
- An area of the house that gets sunlight most every day
- A piece of masking tape or a marker
- A shoebox
- A few earthworms
- A flashlight
- A large index card or reasonably heavy piece of paper
- Large jar (It must be large enough to fit an banana inside.)
- Nylon stocking large enough to stretch over the mouth of the jar
- Rubber band
- A banana

Lab Supplies Needed for Module #10

- One chicken bouillon cube
- Table salt
- White vinegar
- 4 small glasses
- One large glass
- One measuring cup
- One teaspoon
- Masking tape
- Marker or pen
- The four glasses from the beginning of the experiment
- White paper (no lines if possible)
- Baker's active yeast (available at any supermarket)
- Banana
- Two zippered plastic bags (like ZIPLOC® sandwich bags)
- A butter knife
- A marker or some masking tape
- A houseplant (Ivy works best, but most houseplants will work. If you have a few varieties of

houseplants and ivy is not among them, you might try a few instead of just one.)

- A glass
- Scissors
- Some water
- A stalk of wilted celery with the leaves still on it
- A glass
- Some water
- A reasonably sharp knife
- Some food coloring (preferably blue)

Lab Supplies Needed for Module #11

- An uncooked chicken bone (preferably a wishbone or wing)
- A jar with a lid
- Vinegar (preferably white)
- Two houseplants. Make sure that your parents won't mind one of them looking really funny once the experiment is over.
- A few books
- A sunny window
- A plastic bandage, such as a Band-Aid®

Lab Supplies Needed for Module #12

- A small candle (It needs to be in some kind of heavy holder, but the holder should not be tall. A small tealight candle in a cup-like holder, like the one in the figure under step (F), is ideal.)
- A glass that will cover the candle
- A deep bowl (The bowl should be deep enough so that when the candle is placed at the bottom of the bowl, the sides of the bowl are well above the flame of the candle.)
- One cup of vinegar
- One tablespoon of baking soda
- Matches
- A mirror (A hand-held mirror is best, but any mirror will do.)
- A paper towel
- Red (sometimes called purple) cabbage (You only need a few leaves.)
- Distilled water (You can get it at any large supermarket. You need about a quart.)
- Two drinking straws
- A saucepan
- A stove
- Three small glasses (like juice glasses)
- A ¼-cup measuring cup and a 1-cup measuring cup
- A 2-liter plastic bottle (the kind soda comes in)
- A balloon (6-inch or 8-inch round balloons work best.)

- A small spoon (like a ¼ measuring teaspoon)
- An oral thermometer (The kind you use to take a person's temperature. Do not use one of those strips that you put on your forehead. Use the kind of thermometer you stick in your mouth.)

Lab Supplies Needed for Module #13

- A saltine cracker
- A tablespoon
- Iodine (This is available at any drug store. You used it in Experiment 9.2.)
- Two small glasses
- TUMS antacid tablets (Try to get white ones, or at least a tub of TUMS that have some white ones in it.)
- Toilet bowl cleaner (It should contain hydrochloric acid as an ingredient. The best kind to get is colorless. If you cannot get colorless, get a clear kind that has a light tint of color to it. DO NOT get the kind that clings to the bowl. I used non-clinging THE WORKS® when I ran the experiment.)
- Red (sometimes called purple) cabbage
- A teaspoon
- A separate spoon for stirring
- A saucepan
- A measuring cup
- Distilled water (You can get it at any large supermarket. You need about two quarts.)
- A stove for boiling water
- Baking soda

Lab Supplies Needed for Module #14

- A watch with a second hand or (better yet) a stopwatch
- A place that you can do jumping jacks
- Flexible tubing (If you don't have some, the best place to get it is anywhere that sells aquarium products. It is typically called "aquarium tubing," and it is used to connect the aquarium air pump to the filter.)
- A plastic one gallon jug with a lid
- A sink with a plug
- A measuring cup
- A plastic, 2-liter bottle (the kind soda pop comes in)
- Strong scissors
- A plastic sandwich bag (It needs to be large enough for the bottom of the 2-liter bottle to fit into the bag.)
- Tape
- A round balloon (12-inch is ideal, but any size greater than 6-inch will do.)
- A rubber band (It should be large enough to fit around your wrist without stretching. If the rubber band is larger, it will work fine, but a smaller one will not work.)
- A reasonably fresh white carnation (Almost all big supermarkets sell them these days.)
- Two glasses
- Blue food coloring
- Red food coloring
- A knife
- Two spoons for stirring

Lab Supplies Needed for Module #15

- Three onions (any size)
- A cutting knife (In this experiment, a dull knife works better than a sharp one!)
- A freezer
- A cutting board
- A sink in which you can cut
- A tea bag
- Three small glasses (like juice glasses)
- A paper towel
- A coffee filter
- A funnel
- Scissors
- A tea kettle or pot
- A stove
- A spoon for stirring
- A pile of 2 to 3 books (The pile needs to be at least $\frac{3}{4}$ as high as one of the glasses.)

Lab Supplies Needed for Module #16

- Scissors
- A pencil
- Paper
- A ball (It needs to be small enough to be thrown with one hand, like a baseball, softball, or golf ball.)
- A coin
- Some stairs or porch steps
- A paper towel tube or rolled-up piece of thick paper
- A few people to test (8 years or older)
- A glass
- A mirror
- A room with a light switch that when closed off gets *really* dark
- A candle
- Matches
- Salt
- Sugar
- Water
- Lemon juice
- Onion juice (Tonic water is a substitute, but it is not as effective. To make onion juice, cut a few slices of onion and put them in a zippered plastic bag. Then strongly press a rolling pin back and forth across the bag several times. In this way, you will squeeze the juice right out of the onion! You do not need a lot of juice.)
- Several toothpicks
- 5 glasses
- Apple

- Onion
- Blindfold
- A knife
- Two paper towels
- Two sheets of paper
- A black marker or pen
- Two well-sharpened pencils
- Some tape